

Dracovenator

Dracovenator (/ˌdrækoʊnɛ ˈneɪtər/) is a genus of dilophosaurid theropod dinosaur that lived approximately 201 to 199 million years ago during the early part of the Jurassic Period in what is now South Africa. *Dracovenator* was a medium-sized, moderately-built, ground-dwelling, bipedal carnivore, that could grow up to an estimated 7 m (23.0 ft) long. Its type specimen was based on only a partial skull that was recovered.

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Description



Speculative size compared to a human

Dracovenator is estimated to have measured between 5.5 and 6.5 meters (18 and 21 ft) in length.^[1] Others estimates suggest that *Dracovenator* was at most 7 m (23 ft) long and weighed 400 kilograms (882 pounds).^[2] The

holotype specimen, **BP/1/5243**, consists of both premaxillae, a fragment of the maxilla, two dentary fragments, a partial surangular bone, a partial angular bone, a partial prearticular bone, an articular bone, and several teeth. *Dracovenator* has a kink in its upper jaws, between the maxilla and the premaxilla. The back end of the lower jaw features an array of lumps and bumps, a condition seen in *Dilophosaurus*, but to a much smaller extent. Muniyikwa and Raath (1999) reassigned paratype BP/1/5278, which was originally assigned to *Syntarsus rhodesiensis*, to *Dracovenator*, a juvenile specimen which consists of bones from the front of the skull, teeth, and jaw bones.^[3]

A diagnosis is a statement of the anatomical features of an organism (or group) that collectively distinguish it from all other organisms. Some, but not all, of the features in a diagnosis are also autapomorphies. An autapomorphy is a distinctive anatomical feature that is unique to a given organism. According to Yates (2005) *Dracovenator* can be distinguished based on the following characteristics: the presence of a large bilobed fossa surrounding a large lateral premaxillary foramen that is connected to the alveolar margin by a deep narrow

Dracovenator

Temporal range: Early Jurassic, 201–199 Ma

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Partial skull of *Dracovenator regenti*

Scientific classification

Kingdom: Animalia

Phylum: Chordata

Clade: Dinosauria

Clade: Saurischia

Clade: Theropoda

Family: †Dilophosauridae

Genus: †*Dracovenator*
Yates, 2005

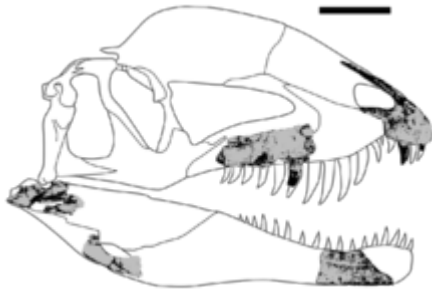
Species: †***D. regenti***

Binomial name

†***Dracovenator regenti***
Yates, 2005

channel; a deep, oblique notch on the lateral surface of the articular bone, separating the retroarticular process from the posterior margin of the glenoid, a particularly well-developed dorsal, tab-like processes on the articular bone-the first on the medial side, just posterior to the opening of the chorda tympani foramen and the second on the lateral side on the anterolateral margin of the fossa for the m. depressor mandibulae.^[4]

Discovery



Drawing of the known skull bones.
Scale bar equals 10 cm.

The type material **BP/1/5243** for *Dracovenator* was discovered at the "Upper Drumbo Farm" locality in the upper Elliot Formation which is part of the Stormberg Group in Eastern Cape Province, South Africa. It was collected by James Kitching and Regent "Lucas" Huma in sandstone that was deposited during the Hettangian stage of the Jurassic period, approximately 201 to 199 million years ago. The paratype material BP/1/5278 (originally assigned to *Syntarsus rhodesiensis*) was discovered in 1981, also at the Elliot Formation in pinkish-maroon silty mudstone that was deposited in Hettangian sediments.^[3] Both the holotype and paratype specimen were housed in the fossil collection of the Evolutionary Studies Institute, part of the School of Geosciences of the University of the Witwatersrand, in

Johannesburg, South Africa. Unfortunately the cranial material housed at the Evolutionary Studies Institute was lost and no new fossils of *Dracovenator* have currently been found.

The genus name is a contraction of the Latin words *draco* meaning "dragon", and *venator* meaning "hunter"; thus, "dragon hunter". "Draco" refers to its discovery in the foothills of Drakensberg, which is "Dragon's Mountain" in the Dutch language. The specific name, *regenti*, was named in the honor of the late Regent 'Lucas' Huma, who was Professor Kitching's field assistant. *Dracovenator* was described and named by Adam M. Yates in 2006 and the type species is *Dracovenator regenti*.

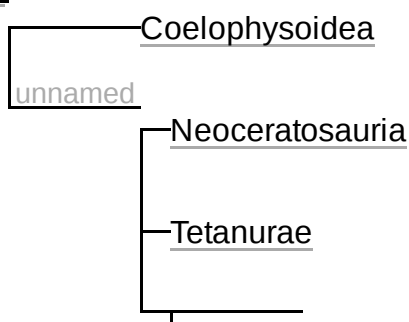
Classification

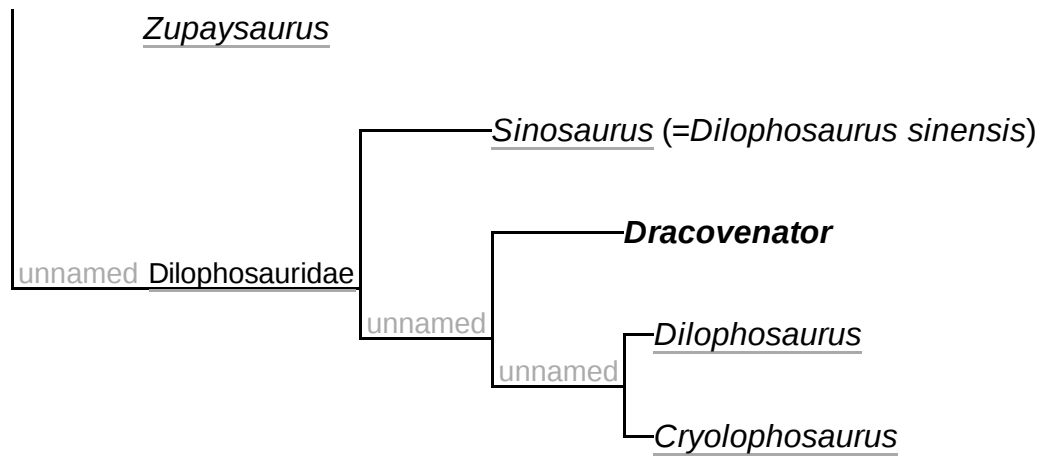
Yates (2005) assigned *Dracovenator* to the clade Neotheropoda.^[4] The first cladistic analysis found that this genus formed a clade with the basal theropods *Dilophosaurus* and *Zupaysaurus*. The skull of the type specimen, exhibits a mosaic of both ancestral and derived theropod characteristics. The following cladogram, based on the phylogenetic analysis conducted by Smith, Makovicky, Pol, Hammer, and Currie in 2007, outlines the relationships of *Dracovenator* and its close relatives:^[5]



Juvenile *Dracovenator regenti* snout on display at the Royal Ontario Museum

Neotheropoda





Paleoecology

The Upper Elliot Formation is thought to have been an ancient floodplain. Fossils of the prosauropod dinosaur *Massospondylus* and *Plateosaurus* have been recovered from the Upper Elliot Formation, which boasts the world's most diverse fauna of early Jurassic ornithischian dinosaurs, including *Abrictosaurus*, *Fabrosaurus*, *Heterodontosaurus*, and *Lesothosaurus*, among others. The Forest Sandstone Formation was the paleoenvironment of protosuchid crocodiles, sphenodonts, the dinosaur *Massospondylus* and indeterminate remains of a prosauropod. *Dracovenator* is thought to have preyed on the prosauropod dinosaurs in its paleoenvironment.



Life reconstruction of *Dracovenator regenti*



holotype BP/1/5243

References

1. Smith, N.D., Makovicky, P.J., Pol, D., Hammer, W.R., and Currie, P.J. (2007). "The Dinosaurs of the Early Jurassic Hanson Formation of the Central Transantarctic Mountains: Phylogenetic Review and Synthesis (<http://pubs.usgs.gov/of/2007/1047/srp/srp003/of2007-1047srp003.pdf>)". *U.S. Geological Survey and The National Academies* doi:10.3133/of2007-1047.srp003 (<https://doi.org/10.3133%2Fof2007-1047.srp003>)
2. "Dracovenator" (<http://www.dinochecker.com/dinosaurs/DRACOVENATOR>). Dinochecker.com. Retrieved 19 May 2013.
3. Munyikwa and Raath, 1999. Further material of the ceratosaurian dinosaur *Syntarsus* from the Elliot Formation (Early Jurassic) of South Africa. *Palaeontologia Africana*. 35:55-59.
4. A. M. Yates. 2005. A new theropod dinosaur from the Early Jurassic of South Africa and its implications for the early evolution of theropods. *Palaeontologia Africana* 41:105-122
5. Smith, N.D., Makovicky, P.J., Pol, D., Hammer, W.R., and Currie, P.J. (2007). "The dinosaurs of the Early Jurassic Hanson Formation of the Central Transantarctic Mountains: Phylogenetic review and synthesis." In Cooper, A.K. and Raymond, C.R. et al. (eds.), *Antarctica: A Keystone in a Changing World—Online Proceedings of the 10th ISAES*, USGS Open-File Report 2007-1047, Short Research Paper 003, 5 p.

External links

- Dinosaur Mailing List announcing discovery (includes full abstract) (<http://dml.cmnh.org/2006Sep/msg00410.html>).

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